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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 16 titles deal with the following topics: the effects of teacher-directed lessons on fourth and fifth grade students; self-concept and the comprehension of scientific reading; the readability of junior college textbooks; the effects of prereading strategies on comprehension; teaching reading in the secondary content areas; reading, study skills, and success in the content areas; the effects of structure in science communications on knowledge recall by college students; the cloze procedure in secondary American government classes; using context cues in sixth grade to complete cloze deletions; readability of textbooks, reading ability, and natural science reading ability in secondary biology classes; the effects of lowered readability and the use of a glossary upon reading comprehension; grammatical constructions in secondary science materials; a comparison of methods for teaching directed reading activities; reading abilities compared with the readability of social science textbooks; and reading ability levels of English and social studies textbooks. (MAI)

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Reading in the Content Areas:

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Abstracts of the following dissertations are included in this collection:

Acitelli, Mary Jayne

THE EFFECTS OF A FIVE STEP TEACHER DIRECTED READING LESSON APPROACH APPLIED TO SOCIAL STUDIES TEXTS WITH SELECTED FOURTH AND FIFTH GRADE STUDENTS

Adrian, Marian M.

THE RELATIONSHIP OF SELF-CONCEPT OF ABILITY SCIENCE AND MATHEMATICS ACHIEVEMENT AND THE OPERATIVE COMPREHENSION OF READING CONTENT

Auvenshine, Anna Lee Banks

A STUDY OF THE READABILITY OF JUNIOR AND COMMUNITY COLLEGE TEXTBOOKS USED IN THE ACADEMIC AREAS AND THE READING ABILITIES OF STUDENTS USING THE TEXTBOOKS

Browning, Larry Jack

AN INVESTIGATION OF THE EFFECT OF TRAINING IN THE USE OF PREREADING STRATEGIES ON SIXTH-GRADE STUDENTS' COMPREHENSION OF SOCIAL STUDIES MATERIAL

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THE READING ACHIEVEMENT LEVELS OF COLLEGE FRESHMEN ENROLLED IN SELECTED FIRST-SEMESTER COLLEGE COURSES COMPARED WITH THE READABILITY LEVELS OF TEXTBOOKS ASSIGNED IN THOSE COURSES

Green, Felice Janette

THE NATURE OF NEED FOR THE TEACHING OF READING IN THE SECONDARY CONTENT AREAS IN THE GEOGRAPHIC REGION SERVED BY THE UNIVERSITY OF NORTH ALABAMA

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RELATIONSHIPS BETWEEN READING ACHIEVEMENT, KNOWLEDGE OF SPECIFIC STUDY SKILLS, AND SUCCESS IN THE CONTENT AREAS FOR SEVENTH-GRADE MIDDLE SCHOOL STUDENTS

Kittrell, Miriam

A COMPARISON OF THE EFFECTS OF STRUCTURE IN ORAL AND WRITTEN SCIENCE COMMUNICATIONS ON KNOWLEDGE RECALL BY COLLEGE STUDENTS OF VARYING VERBAL ABILITY

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A STUDY OF THE CLOZE PROCEDURE AS AN ALTERNATIVE GROUP INSTRUCTIONAL STRATEGY IN SECONDARY SCHOOL AMERICAN GOVERNMENT CLASSES

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TRAINING CONTENT TEACHERS IN THE DIRECTED READING ACTIVITY: COMPARATIVE METHODS

Tignor, Beatrice Proctor

THE READING ABILITIES OF COLLEGE FRESHMEN SOCIAL SCIENCE STUDENTS COMPARED WITH THE READABILITY OF SELECTED SOCIAL SCIENCE TEXTBOOKS

Vickery, Karen Sue

THE RELATIONSHIP BETWEEN THE READING ABILITY LEVELS OF SELECTED ELEMENTARY AND SECONDARY STUDENTS AND THE READABILITY LEVELS OF SELECTED ENGLISH AND SOCIAL STUDIES TEXTBOOKS

THE EFFECTS OF A FIVE STEP TEACHER DIRECTED READING LESSON APPROACH APPLIED TO SOCIAL STUDIES TEXTS WITH SELECTED FOURTH AND FIFTH GRADE STUDENTS
Order No. 7819061

ACITELLI, Mary Jayne, Ph.D. The University of Akron, 1978. 257pp.

This study was designed to determine if fourth and fifth grade students who were below average in reading skills could improve in literal and selected higher level understandings of social studies material through the format outlined in the Guide for Teachers in School District #2, Nassau County, New York (Cooper, 1964). This guide was chosen as an exemplary model because the researcher wished to test the particular five reading steps used in the guide. The five reading steps in the directed lesson that were employed were developing vocabulary; using vocabulary in context; getting meaning from pictures, maps and graphs; directed silent reading with questions; and reviewing quizzes to check the comprehension of the selected pages in the treatment.

The design of this study included two experimental and two control groups. In all there were sixty-three children involved in this study. They were from middle and lower income families and attended a parochial school located in Cuyahoga Falls, Ohio.

One fourth grade teacher and one fifth grade teacher taught both an experimental and a control class. Teacher bias was determined by means of a questionnaire. Readability of the social studies textbook and teaching procedures were also investigated. The fourth grade social studies textbook used in the study was Mankind in Time and Place: Learning to Look at Our New World. The fifth grade textbook was The Changing New World: U. S. and Canada. These books were published by Silver Burdette in 1969.

Eight trained observers who were instructed through the use of video tapes verified that the experiment was performed according to the procedures outlined by the experimenter. A pair of observers viewed a twenty minute portion of a control and an experimental class, and the percentage of agreement between observers was calculated. If the percentage of agreement was lower than 85 per cent, the experimenter analyzed the responses and replayed the tape until the percentage of agreement was 85 per cent. A Scott's (Flanders, 1965) Reliability Coefficient was calculated on the total number of responses made by the eight observers. The Scott's (Flanders, 1965) Reliability estimate for the observers involved in this study was 88 per cent.

The findings of this study revealed that below average readers in the fourth and fifth grade social studies classes did not make statistically significant gains in their knowledge of social studies. This researcher also found that there was no significant difference between the performance of the fourth-grade experimental and control groups on the social studies posttest and the reading posttest. However, the "F" ratios for these hypotheses showed a strong tendency for significance. The findings also revealed that there was no significant difference between the performance of the fifth-grade experimental and control groups on the social studies and the reading posttest.

Additionally, this experiment did reveal that the procedures for training observers in the use of a Flander's Interaction Analysis is a desirable guide to use. This study also illustrated that social studies tests which are written to measure student knowledge of social studies concepts found in social studies textbooks can be enhanced by following Bloom's (1956) Taxonomy.

THE RELATIONSHIP OF SELF-CONCEPT OF ABILITY SCIENCE AND MATHEMATICS ACHIEVEMENT AND THE OPERATIVE COMPREHENSION OF READING CONTENT
Order No. 7813978

ADRIAN, Marian M., Ed.D. State University of New York at Buffalo, 1977. 101pp.

The purpose of this study was to determine the relationship between self-concept of ability, achievement in mathematics and science and the operative comprehension of reading as measured by the Raven Content Comprehension Test (RCCT).

Piaget's theory of equilibration suggests that content concept formation and development occur when an individual constructs a concept. An individual attains operative comprehension when he constructs, transforms or organizes the content. The test of operative comprehension used in this study requires the individual to reorganize the elements of information into a concept.

It is hypothesized that a positive self-concept of ability in a content area facilitates the individual attempt to construct his own content concepts. Therefore, it is predicted that there will be a strong relationship between self-concept of academic ability, scholastic achievement and the test of operative comprehension.

The panel of subjects for this research was composed of 249 average and above average ninth, tenth and eleventh grade students.

The findings of this study confirmed the following hypotheses: 1. There is a positive relationship between reading achievement, science and mathematics achievement, operative reading comprehension, general self-concept of ability and self-concept of ability in mathematics, English, social studies, and science. 2. The correlation between self-concepts of ability in mathematics and science and operative comprehension of reading is greater than the correlation between self-concepts of ability in English and social studies and operative reading comprehension. 3. Operative reading comprehension increases with high school grade. 4. There is no significant difference in operative comprehension of reading, self-concept of ability or achievement between male and female students.

The results of this study suggest that educators who wish to improve scholastic achievements in mathematics and science should be mindful of a student's level of operative comprehension of reading and his self-concept of ability in their plans for curriculum development and accompanying reading materials. This is a cybernetic situation where the more positive an individual's self-concept of ability, the more he is likely to attempt to construct content concepts. The achievement of these constructions will in turn enhance his scholastic image of himself.

A STUDY OF THE READABILITY OF JUNIOR AND COMMUNITY COLLEGE TEXTBOOKS USED IN THE ACADEMIC AREAS AND THE READING ABILITIES OF STUDENTS USING THE TEXTBOOKS Order No. 7820661

AUVENSHINE, Anna Lee Banks, Ed.D. Baylor University, 1978. 158pp.

Problem

This study proposed to find differences existing between textbook readability levels and junior and community college freshmen reading abilities. The study was concerned with the total student sample and the sample divided into its ethnic group representation, Anglo-American, Black-American, and Mexican-American students.

Procedure

An analytical approach was used in this study. The data were gathered from four small junior colleges in north central Texas. A total of 334 students participated in the study. According to ethnic groups represented, 224 Anglo-Americans, 58 Black-Americans, and 32 Mexican-Americans participated in the study. A total of 1,833 textbook samples from 33 textbooks used by these students was examined for the readability study.

The Diagnostic Reading Tests were used to determine the reading abilities of the students. Textbook readability was determined by the Dale-Chall readability formula and Robert Williams' table for rapid determination of readability scores.

Findings

Discrepancies were discovered between the mean readability of textbooks in the study and the main reading ability of students participating in the study. Discrepancies were likewise found between the mean readability of textbooks and the mean reading ability of each ethnic group represented.

The mean textbook readability was grade-levels 11 and 12. A wide distribution of readability levels was found in textbook samples ranging from grade-level 4 and below to grade-level 16.

The mean reading ability of the total student population was grade-level 10. Mean reading abilities of ethnic groups were as follows: Anglo-American, grade-level 10; Black-American, grade-level 7; and Mexican-American, grade-level 8.

The mean readability of textbooks was one to two levels above the mean reading ability of the total student sample. The mean readability of three textbooks was equivalent to the students' mean reading ability while 30 textbooks were above their mean ability. There were 420 textbook samples at, 143 samples below, and 1,270 samples above the students' mean ability.

The mean textbook readability was one to two levels above the mean reading ability of the Anglo-American sample. The mean readability of three textbooks was equivalent to the mean reading ability of these students while 30 textbooks were above their ability. There were 420 textbook samples at, 143 samples below, and 1,270 samples above the students' mean ability.

The mean textbook readability was four to five levels above the mean reading ability of the Black-American sample. The mean readability of all 33 textbooks was above the mean reading ability of these students. There were 26 textbook samples below and 1,807 samples above the students' mean ability.

The mean textbook readability was three to four levels above the mean reading ability of the Mexican-American sample. The mean readability of all 33 textbooks was above the mean reading ability of these students. There were 117 textbook samples at, 26 samples below and 1,690 samples above the students' mean ability.

Conclusions and Recommendations

The data indicate that textbooks and many textbook passages examined are too difficult for the majority of students in the study. The majority of students in the study are unable to make maximum use of their textbooks.

Based on the findings of this study, it was recommended that reading skills of junior college freshmen be examined before classes begin and whenever possible that limited skills be developed before a student is admitted to regular college classes. It was recommended that more skills-development programs be implemented. When skills-development programs are not available, textbook supplementation should be provided.

AN INVESTIGATION OF THE EFFECT OF TRAINING IN THE USE OF PREREADING STRATEGIES ON SIXTH-GRADE STUDENTS' COMPREHENSION OF SOCIAL STUDIES MATERIAL Order No. 7818854

BROWNING, Larry Jack, Ed.D. The University of Alabama, 1977. 191pp.

Purpose. The purpose of the study was to investigate the effect of training in the use of selected prereading strategies on sixth-grade students' comprehension of unfamiliar social studies material.

Problem. The problem of the study was to determine whether significant differences existed in recall of stated detail from social studies material among four randomly selected groups who, respectively, had received: (a) training in the use of purposes for reading, (b) training in the use of advance organizers, (c) training in the use of outlines, and (d) no training in the use of prereading strategies.

Method of Treatment. Five social studies passages of approximately 2,000 to 3,000 words each were selected. For each of the five passages an advance organizer, a statement of purpose, and an outline were developed. Task material consisting of multiple-choice questions was developed for each of the first four passages. In addition, a 40-item criterion test was developed to measure students' ability to recall detail explicitly stated in the fifth passage.

Eight sixth-grade classes were randomly selected from the laryer middle-class elementary schools of the Jefferson County School System in Alabama. The eight classes were randomly assigned, two per group, to three experimental groups and one control group. On each of four consecutive days the groups were given the following treatment. The Purpose Group ($n = 55$) was given a written statement of purpose for reading, oral instruction in the use of the statement of purpose, a social studies passage to read, and task material related to the passage. The Advance Organizer Group ($n = 39$) was given a written advance organizer, oral instruction in the use of the organizer, a social studies passage to read, and task material related to the passage. The Outline Group ($n = 50$) was given a written outline of a passage, oral instruction in the use of the outline, a social studies passage to read, and task material related to the passage. The Control Group ($n = 41$) was given the social studies passage and task material. On the day immediately following the fourth treatment day each group was given prereading material corresponding to the training it had received, the fifth social studies passage, and the criterion test. In addition, during the week preceding the treatment period a test of reading comprehension was administered to each group.

Statistical Treatment. An analysis of covariance was conducted. In the analysis, the criterion test score was the dependent variable and the comprehension test score was the covariate.

Result. When reading comprehension was the covariate the groups' mean scores on the criterion test were not significantly different.

Conclusions. The finding of the study suggested the following conclusions:

1. For sixth-grade students, training in the use of statements of purpose for reading, advance organizers, and outlines did not seem to result in better comprehension of social studies material.

2. For sixth-grade students, the reading of a purpose for reading statement, an advance organizer, or an outline before reading a social studies passage did not seem to result in better comprehension of the social studies material.

THE READING ACHIEVEMENT LEVELS OF COLLEGE FRESHMEN ENROLLED IN SELECTED FIRST-SEMESTER COLLEGE COURSES COMPARED WITH THE READABILITY LEVELS OF TEXTBOOKS ASSIGNED IN THOSE COURSES

Order No. 7816608

FOX, Dickie Lee, Ph.D. East Texas State University, 1978. 136pp. Adviser: James B. Wilson

Purpose of the Study: The purpose of this study was to determine the reading-ability levels of freshmen enrolled in first-semester freshman General Studies courses at East Texas State University; to measure the reading levels of textbooks assigned in the courses; to compare the scores; and to describe what differences, if any, existed. A secondary purpose was to compare the SMOG Grading Formula (SMOG) with the Flesch Reading Ease Formula (Flesch) in order to determine if the SMOG formula is an acceptable readability-assessing instrument for evaluating college textbooks.

Procedure: The Nelson-Denny Reading Test was administered to a statistically representative sample of the entering freshman class during the 1977 fall semester. The sample consisted of 317 students. Scores were converted to grade equivalents, illustrated in frequency distributions, and compared with the readability levels of the textbooks assigned in selected first-semester freshman courses. The Flesch formula and the SMOG formula were employed to measure the books. In order to describe the differences between the reading-ability levels of the students and the readability levels of the textbooks, frequency distributions displayed the data; and a difference of two to three grade levels between the students' reading abilities and the readability levels of the textbooks was deemed significant. A computed t-test for independent samples compared the mean readability levels of the Flesch and the SMOG. The .05 level of confidence was used as the basis to reject or failure to reject the null hypothesis.

Conclusions. The following conclusions are based on the findings of this investigation:

1. The mean reading-ability level of the students is not significantly below the reading-ability level expected of entering freshmen.

2. The reading abilities of the freshman students are not commensurate with the reading difficulty of the textbooks used in their scores.

3. Most instructors do not know the problems students encounter with textbooks which are written on a level higher than the students are capable of reading independently.

4. Textbook authors and publishers should be concerned with keeping the readability levels of textbooks within the grade level for which the textbooks are intended.

5. The SMOG Grading Formula is a reliable readability instrument for assessing the readability levels of college textbooks.

6. Disabled readers constitute 18.60 percent to 26.80 percent of the entering college freshman class.

THE NATURE OF NEED FOR THE TEACHING OF READING IN THE SECONDARY CONTENT AREAS IN THE GEOGRAPHIC REGION SERVED BY THE UNIVERSITY OF NORTH ALABAMA

Order No. 7818867

GREEN, Felice Janette, Ed.D. The University of Alabama, 1977. 163pp.

The purpose was to assess the perceived reading needs of secondary content area teachers who teach in the geographic region served by the University of North Alabama. This assessment included: (1) attitudes of secondary content area teachers, (2) reading problems exhibited by the students of content teachers, and (3) the frequency with which secondary content teachers used certain practices related to the teaching of reading.

A questionnaire was designed based on the review of related literature to ascertain from language arts, social studies, mathematics, and science teachers their (1) background, (2) attitudes, (3) kinds of reading problems they perceived their students had, and (4) what they were doing about these reading problems. A packet containing twenty questionnaires was sent to fifty randomly selected secondary schools. The data were analyzed and presented according to frequencies and percentages in tabular form.

Findings showed that teachers ranked assisting the students to develop the ability to read the content of their discipline as the most important teacher function. Although they felt this was the most important teacher function, only slightly more than one-fourth believed they were primarily responsible for improving students' reading. The respondents indicated that 21 to 30% of their students exhibited reading problems that interfered with learning. Over three-fourths believed that none of the teacher functions listed on the questionnaire could be used successfully if a student had a severe reading problem.

When requested to rank reading disabilities as to their frequency of occurrence, the inability to comprehend the meanings of sentences was ranked first, while the inability to use proper study skills was ranked last. When indicating the frequency with which they used certain reading practices in the content areas, the mathematics teachers believed that they used 22, or 47%, of the practices always or most of the time, social studies teachers 35 or 76%, and science teachers 27 or 59%. The language arts teachers used the most practices (36, or 78%) always or most of the time. Over two-thirds of the respondents felt that they were not qualified to assist students who had reading problems.

Most respondents indicated that they had not been taught the strategies commonly used to correlate the teaching of reading with content, which resulted in their feeling unqualified to use the strategies. Slightly more than two-thirds of the respondents believed that undergraduate courses should provide training in reading for content teachers, while over one-half of the respondents felt that in-service programs should be responsible for this training.

The study concluded that the teachers had a desire to learn the reading skills they did not know, that they had not been trained to teach reading in the content areas, therefore, they did not feel qualified to teach reading. They also believed their undergraduate teacher education program, should have included one or more reading courses. Furthermore, the teachers did not believe it their duty to teach reading. They believed that elementary school teachers were primarily responsible for teaching reading, but if reading were taught at the secondary level it was the English teachers' responsibility.

Several recommendations were made: (1) that administrators should encourage teaching of reading in all of the content areas, (2) that the practices perceived as important and utilized by content area teachers could serve as a basic teaching skills core for a secondary reading methods course designed for undergraduates, and (3) that those practices that were not taught should be included in graduate courses and/or in-service training programs, when appropriate.

RELATIONSHIPS BETWEEN READING ACHIEVEMENT, KNOWLEDGE OF SPECIFIC STUDY SKILLS, AND SUCCESS IN THE CONTENT AREAS FOR SEVENTH-GRADE, MIDDLE SCHOOL STUDENTS Order No. 7817383

GROSS, Lucille Madeline, Ed.D. Temple University, 1978. 109pp.

This study was designed to examine the relationships between reading achievement, knowledge of specific study skills, and success in the content areas for seventh-grade, middle school students. Data were obtained for three groups of students. Groups consisted of above average (8.6 to 9.4), average (7.4 to 8.2), and below average readers (6.2 to 7.0). By studying three groups, the necessity of generalizing the results and implications for any one group of students and extrapolating them to the remaining groups was avoided. Intellectual quotients for students included a range of from 84 to 116. An auxiliary analysis was also made for all seventh-grade students with mental ability scores within this range. The post analysis omitted any class intervals in reading scores. The study skills to be measured included those skills necessary for reading maps, tables and graphs, and reference materials. Assessment of achievement in the content areas was measured by scores on standardized tests in language arts, mathematics, and social studies.

The various correlations for paired variables were determined through the use of the Pearson correlation. When significant, differences between these correlations were evaluated by using the Fisher z-test. Prediction values were found by using the techniques of multiple regression. T-tests were calculated to test whether there were significant differences in IQ between the groups. An analysis of covariance was performed to determine the effect of IQ as a covariate area and study skill achievements.

The following hypotheses were tested:

1. There will be a significantly higher positive correlation between the total study skills scores and combined scores in language arts, mathematics, and social studies than between reading achievement and combined success in the respective content areas. a. Study skills scores will be a better predictor of the combined scores in the content areas than will be the reading achievement scores. b. The above are hypothesized for each of the subgroups (1, 2, and 3) as well as the total group.

2. There will be a significantly higher positive relationship between knowledge of reference skills and success in language arts than between reading achievement and success in language arts. a. Knowledge of reference skills will be a better predictor of success in language arts than will be reading achievement. b. The above are hypothesized for each of the subgroups (1, 2, and 3) as well as the total group.

3. There will be a significantly higher positive relationship between knowledge of skills necessary for reading tables and graphs and success in mathematics than between reading achievement and success in mathematics. a. Knowledge of skills necessary for reading tables and graphs will be a better predictor of success in mathematics than will be reading achievement. b. The above are hypothesized for each of the subgroups (1, 2, and 3) as well as the total group.

4. There will be a significantly higher positive relationship between knowledge of skills necessary for map reading and success in social studies than between reading achievement and success in social studies. a. Knowledge of skills necessary for map reading will be a better predictor of success in mathematics than will be reading achievement. b. The above are hypothesized for each of the subgroups (1, 2, and 3) as well as the total group.

5a. There is a significant difference in the IQ level between the groups, which are defined by reading ability.

5b. There is a significant difference between groups, as defined by reading ability, in combined content area achievements with IQ as the covariate.

5c. There is a significant difference between groups, as defined by reading ability, in total study skill achievements with IQ as the covariate.

The following conclusions are drawn from the results of this study.

1. Study skills and reading achievement are important factors in the effect they have on the dependent variables. The two independent variables should be considered together as a composite because of the higher interrelationships found between the two factors.

2. Both total study skills scores and reading achievement were significant predictors of variance in the combined content areas.

3. There is indeed some difference in content area and study skill achievements due to reading ability levels of students.

A COMPARISON OF THE EFFECTS OF STRUCTURE IN ORAL AND WRITTEN SCIENCE COMMUNICATIONS ON KNOWLEDGE RECALL BY COLLEGE STUDENTS OF VARYING VERBAL ABILITY Order No. 7822060

KITTRELL, Miriam, Ed.D. Columbia University Teachers College, 1977. 173pp. Sponsor: Professor O. Roger Anderson

The objective of this research was to examine the effects of verbal instructional materials presented in both written and oral form on the knowledge acquisition of college students of varying verbal competence. Dr. O. Roger Anderson's biopsychological theory of kinetic structure provided the theoretical base for the research hypotheses and the method to quantitatively analyze the organization of content in the treatment communications.

Anderson's theory predicts that a communication with an appropriate degree of structure will facilitate increased knowledge acquisition compared to a communication with a lower degree of structure.

The three independent variables involved in this study were the structure of the treatment communications, the mode of presentation, and the subject's level of verbal competence. The dependent variable was the amount of knowledge recalled by the subject. High and low structure communications were prepared utilizing Anderson's method. The oral communications were presented by audio tape whereas the written communications were presented in booklet form. The subject's level of verbal competence was classified as either high or low based on an evaluation instrument measuring this parameter. A total free recall score was computed for each subject both immediately after treatment and one week later as a measure of retention.

Three hundred and fifty urban community college students comprised the sample population. Treatments were presented to entire classes. Each class had approximately equal numbers of high and low verbal subjects. Accordingly, the 2x2x2 factorial design called for four treatments--

1. Low structure oral.
2. High structure oral.
3. Low structure written.
4. High structure written.

Due to subject mortality, two hundred and fifty subjects completed the retention study. Factorial analyses of variance and t-tests ($p < 0.05$) were performed on the total free recall scores collected for both studies.

Since there were no significant interaction effects, only main effects were examined. Significant differences in total recall were found for structure and verbal competence both in the immediate recall study and the retention study. The effect of mode was significant only in the immediate recall study.

This study demonstrated that for all subjects, communications with high structure produced greater recall than did communications with low structure, thus confirming Anderson's theory. Both high and low verbal subjects showed greater recall with high structured communications as compared to low structured communications. These results and those of previous studies, indicate that structure remains second only to verbal ability as the most significant variable influencing verbal learning. However, there was no enhancement of knowledge acquisition by high verbal ability subjects with high structure treatment compared to low verbal ability subjects receiving a high structure communication, although such a relationship was predicted. The same results were obtained for both the immediate recall and retention studies.

In the immediate retention study, the written mode was found to be significantly more effective only for the high verbal subjects. These effects were not significant in the retention study. Moreover, the expectation that there would be a greater difference in recall between the subjects who received oral high structured communications and those who received oral low structured communications compared to those subjects who received written high structured communications and those who received written low structured communications was not demonstrated.

A STUDY OF THE CLOZE PROCEDURE AS AN ALTERNATIVE GROUP INSTRUCTIONAL STRATEGY IN SECONDARY SCHOOL AMERICAN GOVERNMENT CLASSES

Order No. 7811183

McNAMARA, Lawrence Patrick, Ed.D. Northern Illinois University, 1977. 86pp.

This study's problem asks a question: Does the cloze procedure (an every tenth word deletion system) as a group instructional strategy for secondary school American government students produce significantly higher content knowledge than a group instructional strategy using either a modified version of SQ3R (Survey, Question, Read, Review, and Recite) or lecture-discussion?

An experiment utilizing the counterbalanced design was conducted. All 309 senior high school students studied under all three methods in the required one-semester American government course. This course was offered in the fall and spring semesters. Each semester was treated separately. Three instructional units of equal difficulty served as the subject matter to be learned; each unit had a teacher-made, fifty question multiple-choice pre- and posttest to measure learning.

Each method was taught within the usual time span of seven successive school days which is the average length of a typical American government unit. Each method had a twenty-minute presentation module followed by a discussion module of thirty-five minutes. The cloze procedure had students completing a cloze exercise followed by a discussion of the correct responses which was oriented to mastery of the unit's content. SQ3R exercises were followed by discussion of key questions to be asked in order to master the content of the unit. Only the first three steps of SQ3R were used. Lecture presentations were followed by discussion of the lecture's content.

In both semesters, there was significant growth for each method. It was concluded that each method could be used with the expectation that students will have significant growth in content knowledge. In comparing methods, it was found that there was no significant difference between SQ3R and the cloze procedure in either semester's experiments; no significant difference was found between SQ3R and the lecture-discussion method in either semester's experiments.

There was no significant difference between the cloze procedure and the lecture-discussion method in the first semester's experiments. However, there was a significant difference between them in the second semester. Further analysis showed that lecture-discussion was significantly better than the cloze procedure in the second semester.

It was concluded that all three methods were effective as teaching techniques since each promoted significant growth in content knowledge. Additional research in the cloze procedure was recommended in order to explain the difference in findings between each semester's experiments.

THE EFFECT OF TEACHING SIXTH GRADERS TO USE CONTEXT CUES TO COMPLETE CLOZE DELETIONS IN SOCIAL STUDIES MATERIALS

Order No. 7824144

MARTINEZ, Paula Stephen, Ph.D. East Texas State University, 1978. 177pp. Adviser: Mary L. Jernigan

Purpose of the Study: The major purpose of this study was to determine whether there is a significant difference in the syntactic, semantic, and exact replacement scores of the sixth graders who received training in the cloze procedure and of those sixth graders who received no training. Another purpose was to determine whether there is a significant difference in the comprehension scores of the following three groups of sixth graders: those who received training and completed the cloze passage from a social studies textbook, those who received no training and completed the cloze passage from a social studies textbook, and those who received no training and read the undeleted passage from a social studies textbook.

Procedure: The sample included 102 sixth graders who were students at a middle school in Garland, Texas. The students selected were reading on- or above-grade level as determined by the Iowa Tests of Basic Skills and were designated by the school administration as "honors" students. Although the subjects were not randomly selected, the same teacher did instruct all three groups in the study. The experimental group received instruction in the use of the cloze procedure based on the following seven context cues: familiar expressions, association, anaphoric, cataphoric, synonyms/definitions/descriptions, comparison/contrast, and words in a series. Control group one received no instruction on the use of the cloze procedure but completed the pre- and post-cloze test and answered comprehension questions over the passage. Control group two received no training in the use of the cloze procedure but read the same social studies passage without deletions and answered questions over the passage. A criterion test was used to assess comprehension, and the analysis of variance was applied to the collected data. Tukey's t-test was employed to determine the precise location of significance. A linguistic analysis was completed on all the responses of the pre- and post-cloze test for both the experimental group and control group one. Responses, analyzed according to syntactic acceptability, semantic acceptability, and exact replacement, were tabulated and statistically analyzed by applying the t-test. The hypotheses were rejected at the .05 level of significance.

Findings: The study resulted in the following findings:

1. A statistically significant difference at the .001 level of confidence was obtained between the mean percentages of syntactic, semantic, and exact replacement scores on the pre-test and on the posttest for the experimental group.
2. A statistically significant difference at the .001 level of confidence was obtained between the mean percentages of syntactic, semantic, and exact replacement scores on the pre-test and on the first interim test for the experimental group.
3. A statistically significant difference at the .001 level was obtained between the mean percentages of the syntactic and semantic scores on the pre-test and on the second interim test for the experimental group.
4. No statistically significant difference was obtained between the mean percentages of the exact replacement scores on the pre-test and the exact replacement scores on the second interim test for the experimental group.
5. No statistically significant difference was obtained between the mean percentages of the syntactic, semantic, and exact replacement scores on the pre-test for the experimental group and for control group one.
6. A statistically significant difference at the .01 level of confidence was obtained between the mean percentages of the syntactic, semantic, and exact replacement scores for the experimental group and control group one on the posttest.
7. A statistically significant difference at the .01 level of confidence was obtained between the mean scores on the comprehension test for the experimental group and control group one and for the experimental group and control group two. No statistically significant difference was obtained between the mean comprehension scores of the two control groups.

Conclusions. The following conclusions were advanced:

1. Instruction in the use of context cues to complete cloze deletions improves students' ability to make syntactically acceptable, semantically acceptable, and exact replacement responses.
2. Above-average students improve in their ability to use the cloze procedure after two weeks of instruction in the use of context cues to complete cloze deletions.
3. Instruction in the use of context cues to complete cloze deletions improves students' reading comprehension of social studies materials.
4. Cloze deletions do not impede nor do they improve comprehension of social studies materials with students who have received no training in the use of the cloze procedure.

SIGNIFICANT RELATIONSHIPS AMONG LOUISIANA SECONDARY PUBLIC SCHOOL BIOLOGY CLASSES: READABILITY OF BIOLOGY TEXTBOOKS, GENERAL READING ABILITY, AND NATURAL SCIENCE READING ABILITY

Order No. 7820609

MIDDLETON, John Randolph, Ed.D. Northwestern State University of Louisiana, 1978. 109pp. Major Professor: Raymond M. Gilbert

Purpose of The Study

The purpose of this study was to investigate the possibility of predicting one of the following variables, the readability of biology textbooks, student natural science reading ability, and student general reading ability, when only two of the variables are known.

Procedure

The field study was conducted during the month of March of the 1977-78 school year. The population of this study encompassed all the secondary public school biology students in the state of Louisiana utilizing state approved biology textbooks. The stratified, random selection procedure resulted in twelve schools being selected, four using the low-level readability textbook, five using the average-level readability textbook, and three using the high-level readability textbook.

In each of the twelve selected schools two tests were administered, the Iowa Tests of Educational Development--Ability To Interpret Reading Material In The Natural Sciences and the Science Research Associates,--Diagnostic Reading Tests, Survey Section, Form A, General Reading Ability to determine each student's ability level in each category. Of the 464 students taking the tests, eight tests were invalid; therefore, only 456 students' scores were used in the study.

The Fry Readability Graph was applied to each biology textbook listed on the Official Louisiana State Textbook Adoption List to determine textbook readability level.

Findings

The following F values represent the calculated values of the two variables, natural science and general reading abilities, for each textbook level. They are: (1) low-level, 5.459 with 1/145 degrees of freedom; (2) average-level, 70.015 with 1/230 degrees of freedom; and (3) high-level, 75.630 with 1/78 degrees of freedom. All three levels were significant at the .05 level.

With significant differences found to exist, Fisher's Z transformation was applied to determine differences between textbook levels. Differences were found to exist between the low-level textbook and high-level textbook. No significant difference was found to exist between the average-level and high-level textbooks.

Multiple discriminant analysis was applied to determine the level of textbook to be used when the scores of general reading and natural science reading abilities are known. The calculated chi square for both discriminant functions had a probability greater than .00001.

The textbook ratings from the application of the Fry Readability Graph for determination of grade level readability for biology textbooks were found to be generally in accord with the biology classification of the Official Louisiana State Textbook Adoption List. Spearman's rho was used to determine significance at the .01 level. Rho was then substituted into the t-statistical formula. T-calculated was found to be significant at the .05 level.

Conclusions

Conclusions of this study, based on results of data analysis, are:

1. A student's natural science reading ability score can be predicted when the student's general ability score and his biology textbook level are known.
2. A student's general reading ability score can be predicted when the student's natural science reading ability score and his biology textbook level are known.
3. Predictability of the readability level of the biology textbook is possible when the student's general reading ability and natural reading ability scores are known.
4. Since variations of reading scores exist, multiple textbook usage in the biology class assures each student a proper level biology textbook.
5. The Fry Readability Graph accurately predicts readability levels of biology textbooks.
6. Biology educators in Louisiana are accurately using textbooks for low, average, and high-level biology classes.
7. The Louisiana State Department of Education is assigning proper textbook classification to biology textbooks listed on the Official Louisiana State Textbook Adoption List.

THE EFFECTS OF LOWERED READABILITY AND THE USE OF A GLOSSARY UPON READING COMPREHENSION OF SELECTED INDUSTRIAL ARTS ELECTRONICS TEXT MATERIALS

Order No. 7819644

PAIGE, William Dennison, Ph.D. The Ohio State University, 1978. 168pp. Adviser: Professor Willis E. Ray

This research endeavor attempted to provide some evidence relating to the questions: Can reading comprehension be increased by lowering the level of readability of a textbook? Does providing a glossary of technical terms at the beginning of a reading selection aid in increasing the level of reading comprehension? More specifically, the purposes of this research were to: (1) determine the effects of lowering the level of readability of textbook materials on the level of comprehension and (2) to determine the effects of providing a glossary of technical terms on the level of comprehension.

To accomplish these purposes, two readings were selected from Chapter 17 of Electricity and Electronics by Howard Gerrish. The level of readability for these passages was estimated by using the Fry Readability Graph and the Flesch Reading Ease Formula. These readings were then rewritten at approximately an 8th grade level of readability.

Fifty item cloze tests were constructed using the two original readings and the two rewritten readings. Half of the original and half of the rewritten cloze tests were provided glossaries of technical terms at the beginning of the reading. The four cloze tests--(1) rewritten with glossary, (2) rewritten without glossary, (3) unaltered with glossary, and (4) unaltered without glossary--were then randomly assigned to the subjects within intact first year electricity classes. These 10th, 11th, and 12th grade classes were from two high schools in a northern Florida county.

The cloze tests of the first of the selected readings were administered to a total of 108 subjects on the first day of the study. The cloze tests of the second of the two selected readings were administered to 105 subjects on the second day of the study. The data resulting from these cloze tests were subjected to a multiple regression analysis.

The findings of the study led to the conclusion that lowering the level of readability substantially increases the level of comprehension. It was also concluded that the presence of a glossary of technical terms at the beginning of the reading did not help increase the level of comprehension.

GRAMMATICAL CONSTRUCTIONS COMMONLY USED IN SECONDARY SCHOOL SCIENCE MATERIALS

Order No. 7817403

RANDLEMAN, Irene Elizabeth, Ed.D. Temple University, 1978. 178pp.

Statement of the Problem

The study examines grammatical constructions commonly used in secondary school science materials and discusses those constructions in relation to problems in reading comprehension.

Purposes

The major purpose was to alert English teachers to the need to facilitate students' comprehension of science textbooks by giving special attention to grammatical constructions frequently used by writers of secondary school science materials.

A related purpose was to find out the extent to which grammatical features identified by research as characteristic of other types of science materials are also frequently used in high school textbooks. Those grammatical constructions were: (1) prepositional phrases; (2) included clauses; (3) participial modifiers; (4) infinitives; (5) passive verb forms; (6) subject clusters.

Methods

The descriptive method of research was employed. Further, sampling procedures of Jean Alice McConochie's study, Simplicity and Complexity in Scientific Writing (1969), were replicated for the present investigation. Twenty sentences from each of one hundred science textbooks (Biology, Chemistry, Physics, Physical Science, Psychology) listed on the Secondary Textbook Requisition--1976 of the School District of Philadelphia were selected by stratified sampling. The total corpus was 2,000 sentences.

Major Findings

1. In all five types of science materials, prepositional phrases were used more frequently than any other construction studied. The 2,000 sentences of the corpus contained 6,000 prepositional phrases.
2. Embedded prepositional phrases occurred 998 times.
3. The frequency figures for the five other grammatical constructions were as follows: In the 2,000 sentences, subject clusters occurred 1,081 times; included clauses, 968; passive verb forms, 596; infinitives, 580; and participial modifiers, 445.
4. Chemistry and Physics sentences were more complex, syntactically, than sentences in the other sciences; the Psychology sentences were least complex.
5. Many sentences conventionally classified as "simple" (because they consisted of a single clause) were actually extremely complex from the standpoint of readability; such a sentence often contained embedded prepositional phrases, lengthy subject clusters, participial modifiers, and infinitives.

Implications and Recommendations

1. Teachers and students should be aware of specific differences between textbook language and conversational speech. (These are discussed in the study.)
2. In preparation for reading science texts, students should be given opportunities to analyze and discuss "problem" sentences and paragraphs from science materials.
3. In classes designed to improve reading skills, students should hear difficult sentences read aloud by the teacher (while looking at the printed form).
4. Students should practice writing the kinds of sentences encountered in reading.

TRAINING CONTENT TEACHERS IN THE DIRECTED READING ACTIVITY: COMPARATIVE METHODS

Order No. 7818163

REGELMANN, Virginia Ann, Ph.D. Arizona State University, 1978. 88pp.

A major purpose of the study was to compare the effects of the video-tape demonstration method with the lecture method of training preservice content teachers in the use of the directed reading activity. A second purpose was to determine if there were differences in the verbal behavior patterns manifested during nonprint-oriented lessons, and whether there was an interaction between method of training and print/nonprint variables.

In reviewing the findings and conclusions of related research, two trends were noted: (1) the general lack of interest in investigating the efficacy of instructional approaches used in reading methods classes and (2) the lack of significant findings in the studies conducted in general methods classes which included an investigation of video-tape demonstrations.

The subjects who participated in the study were 35 secondary level student teachers enrolled in a practicum course at Arizona State University. The experimental group of 17 subjects were shown a video-tape demonstration of a directed reading activity. The control group of 18 subjects were presented a lecture on the use of the directed reading activity. Subjects then taped a lesson while student teaching using a directed reading activity strategy. The audio tapes were analyzed by the researcher using a verbal interaction analysis system developed by Hough.

A two-way analysis of variance was applied to the data. Findings from the statistical analyses led to two major conclusions: (1) the video-tape demonstration method elicited the same verbal behavior patterns from student teachers using a directed reading activity as the lecture method and (2) the student teachers who taught nonprint-oriented lessons exhibited the same verbal behavior patterns as those who taught print-oriented lessons.

In general, the results of this investigation tended to support the findings of other researchers who studied instructional approaches in general methods courses. There were no statistically significant differences between the lecture and video-tape demonstration methods of training preservice teachers in terms of an objectively based criterion measure of classroom verbal behavior.

THE READING ABILITIES OF COLLEGE FRESHMEN SOCIAL SCIENCE STUDENTS COMPARED WITH THE READABILITY OF SELECTED SOCIAL SCIENCE TEXTBOOKS

Order No. 7810778

TIGNOR, Beatrice Proctor, Ed.D. The George Washington University, 1977. 281pp.

This study was undertaken to ascertain the reading abilities of a group of open-admission freshmen in a two-year college, and to compare their reading abilities with the readability of their assigned social science textbooks. Students who were reading on a lower level than that in which their textbooks were written generally found them difficult to comprehend. Large numbers of drop-outs from colleges throughout the country attest to the inability of the students to cope with this problem and the inability of instructors to find a solution. Because of the reading load usually expected of students enrolled in social science courses, the readability of the textbooks assigned to them becomes a matter of great concern.

Purpose of the Study

The purpose of this study was first to determine the reading abilities of a selected group of freshmen attending a two-year college and enrolled in freshmen-level social science courses. The readability levels of the assigned textbooks were then rated to determine the degree of difficulty, if any, that students would have reading them. Although the primary intent of this study was a comparison of reading ability of social science students with their textbooks, another objective was to show the increasing awareness of the wide discrepancy between reading levels of community college students and the textbooks that they are required to read.

Procedure

A group of 808 Prince George's Community College freshmen enrolled in 25 social science courses was selected to participate in the study. The Nelson-Denny Reading Test, Form B, was administered to the students to determine their reading abilities. The Dale-Chall Readability Formula was the measurement applied to the textbooks to obtain the readability levels. The reading ability levels of the students were then compared with the readability levels of their assigned social science textbooks.

Findings

When the Dale-Chall Readability Formula was applied to the textbooks, the majority of the samples were rated at the twelfth or thirteenth-to-fifteenth grade level. The mean grade level of the students' reading abilities was thirteenth grade, third month. Also, of the 10 textbooks evaluated, the geography, political science, psychology, and behavioral science textbooks tended to be the most difficult to read and understand when compared with the reading abilities of the students who were using them. Difficult word count had more effect on readability than did sentence length. The increased readability difficulty of the texts was caused by general vocabulary rather than technical vocabulary.

Conclusions

In general, the reading abilities of the students varied tremendously. Parts of the textbooks required reading abilities of a college graduate, while other parts of the textbooks could be read by students with abilities no higher than ninth grade. A number of students did not possess sufficiently high abilities to read any part of the textbooks, while some capable students could read all parts of the textbooks with no difficulty whatsoever.

THE RELATIONSHIP BETWEEN THE READING ABILITY LEVELS OF SELECTED ELEMENTARY AND SECONDARY STUDENTS AND THE READABILITY LEVELS OF SELECTED ENGLISH AND SOCIAL STUDIES TEXTBOOKS

Order No. 7824153

VICKERY, Karen Sue, Ed.D. East Texas State University, 1978. 154pp. Adviser: Robert Munday

Purpose of the Study: The purpose of this study was to determine whether the reading levels of fifth-, seventh-, ninth-, and eleventh-grade students are above, at, or below the readability levels of selected English and social studies textbooks. Of primary concern was the relationship between these variables according to gender and achievement of the students.

Procedure: Only those students enrolled in the Royse City (Texas) Independent School District in the fifth-, seventh-, ninth-, and eleventh-grade English and social studies classes during the spring semester, 1977, were included in the study. This provided a research population of 161 subjects. The California Achievement Tests, 1970 edition, was used to measure the reading abilities of students in the fifth grade, the Comprehensive Tests of Basic Skills, Expanded Edition was used to measure the reading abilities of students in the seventh, ninth, and eleventh grades, and the Dale-Chall Readability Formula was used to analyze the difficulty level of each of the seven textbooks. The data were tabulated and reported in frequency of occurrence and percentages for each grade level.

Findings: The major findings of this study were as follows:

1. In the fifth-grade social studies class, over 85 percent of the students were reading at and above the readability level of the textbook, while only 57 percent were doing so in the fifth-grade English class.
2. Of the forty-five students enrolled in the seventh grade, 80 percent were reading below the readability level of the social studies textbook, while 53 percent were reading below the readability level of the English textbook.
3. Over 66 percent of the students in the ninth grade were reading at and above the readability level of the English textbook.
4. In both the eleventh-grade social studies and English classes, over 82 percent of the students were reading at and above the readability level of their textbooks.

Conclusions: The major conclusions of this study were as follows:

1. Since the fifth-grade social studies textbook was rated at a lower readability level according to the Dale-Chall Readability Formula than was indicated by the publisher of the textbook, there were only six students who were reading at a level which indicated that the material was too difficult to adequately comprehend.
2. One reason why such a large percentage, 80 percent, was reading below the readability level of the seventh-grade social studies textbook could be because the textbook was rated at a higher readability level than it was designated.
3. Although twenty-four of the seventh-grade students were reading below the readability level of the English textbook, only eleven actually made a low-achieving score. The others made a passing score because of factors other than the difficulty level of the textbook which perhaps affected this achievement.
4. Since the ninth-grade English textbook was rated at a lower readability level than it was designated, this might account for more students being able to read and comprehend the material than might otherwise have been the case.
5. Since both the eleventh-grade textbooks were below the designated level, only 17 percent of the students were reading below the readability levels of the textbooks.

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